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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/577,854

04/28/2006

Satoshi Takei

127856

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25944 7590 04/01/2009

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EXAMINER

LEE, SIN J

ART UNIT

PAPER NUMBER

1795

MAIL DATE

DELIVERY MODE

04/01/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/577,854	Applicant(s) TAKEI ET AL.	
	Examiner Sin J. Lee	Art Unit 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☒ Claim(s) 2 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 April 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>6/5/07, 7/12/06</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claim 2 is objected to because of the following informalities: Claim 2 is an independent claim (that is independent from present claim 1). Thus, applicants need to insert into present claim 2 the chemical formula (1) as well as the definition for the variable R1. Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

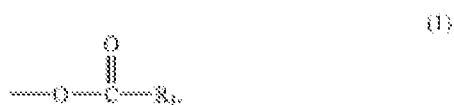
A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

3. Claims 1, 3-5 and 8 are rejected under 35 U.S.C. 102(a) as being anticipated by Takei et al (WO 2004/061526 A1) (with Takei et al (US 7,361,718 B2), which is an English equivalent to the Japanese document and which is being used here purely for English translation of the Japanese document).

Takei teaches a gap fill material forming composition for manufacturing semiconductor devices, and the composition contains a dextrin ester compound, a crosslinking agent and an organic solvent (see claims 1, 7 col.12, lines 13-34). The dextrin ester compounds are dextrin ester compounds that at least 50% of hydroxyl groups are converted into ester groups of the following formula (1) (see col.7, lines 58-67, col.8, lines 19-33):

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R₁ in formula (i) is C₁₋₁₀ alkyl group that may be substituted with hydroxy group, carboxy group, cyano group, nitro group, C₁₋₆ alkoxy group, fluorine atom, chlorine atom, bromine atom, iodine atom or C₁₋₆ alkoxy carbonyl group, or phenyl, naphthyl or anthryl group that may be substituted with C₁₋₆ alkyl group, hydroxy group, carboxy group, cyano group, nitro group, C₁₋₆ alkoxy group, fluorine atom, chlorine atom, bromine atom, iodine atom or C₁₋₆ alkoxy carbonyl group. The alkyl group includes for example methyl, ethyl, isopropyl, n-pentyl, cyclohexyl and n-octyl, and the like. The alkoxy group include for example methoxy, ethoxy, isopropoxy and cyclohexyloxy, and the like. The alkoxy carbonyl group includes for example methoxycarbonyl, ethoxycarbonyl and cyclohexyloxycarbonyl, and the like.

Takei also teaches (col.10, lines 54-67) the use of acid compounds in his gap fill material forming composition. The gap fill material forming composition as discussed above is used in manufacture of semiconductor device by a method comprising coating a photoresist on a substrate having a hole with aspect ratio shown in height/diameter of 1 or more, and transferring an image to the substrate by use of lithography process, and that the composition is coated on the substrate (and baked) *prior to* coating of the photoresist. See col.3, lines 40-51, col.4, lines 30-35. Thus, Takei teaches present inventions of claims 1, 3-5 and 8.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2, 6, 7, 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takei et al (WO 2004/061526 A1) (with Takei et al (US 7,361,718 B2), which is an English equivalent to the Japanese document and which is being used here purely for English translation of the Japanese document).

Takei teaches (see claim 2) that his polymer (such as dextrin ester compound) has Mw of 500-30,000. This range overlaps with present range of 4,000-20,000 and thus renders present range prima facie obvious. In the case "where the [claimed] ranges overlap or lie inside ranges disclosed by the prior art," a prima facie case of obviousness would exist which may be overcome by a showing of unexpected results, In re Wertheim, 541 F.2d 257, 191 USPQ 90 (CCPA 1976). Thus, Takei's teaching renders obvious present inventions of claims 2, 6, 7, 9 and 10.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sin J. Lee whose telephone number is 571-272-1333. The examiner can normally be reached on Monday-Friday from 9:00 am EST to 5:30 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia Kelly, can be reached on 571-272-1526. The fax phone number for the organization where this application or proceeding is assigned is **571-273-8300**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

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Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Sin J. Lee/

Primary Examiner, Art Unit 1795

March 30, 2009